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LAHIVE & COCKFIELD, LLP/THE MATHWORKS One Post Office Square Boston, MA 02109-2127			EXAMINER THERIAULT, STEVEN B	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/637,433	Applicant(s) ALDRICH, WILLIAM J.	
	Examiner STEVEN B. THERIAULT	Art Unit 2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to the following communications: RCE filed 02/28/2008.
2. Claims 1–5, 7-23 are pending in the case. Claims 1, 12, and 23 are the independent claims.
Claims 6 and 24 has been cancelled.

Claim Rejections - 35 USC § 101

3. In light of applicant's amendment to the specification, the previous rejection is now considered moot. The amendment is not interpreted as adding new material or changing the scope of the claimed invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-5, 7-10, 12-19, 21, 23 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Belcsak et al (hereinafter Belcsak) US. Patent no. 6,957,191 issued Oct. 18, 2005 and filed Sept. 14, 2000, or (Belcsak in view of Paterson et al) (hereinafter Paterson) U.S. Patent No. 6069629 issued May 30, 2000.**

In regard to **Independent claim 1**, Belcsak teaches a method comprising:

- Performing an analysis or synthesis operation on a graphical model representation that includes at least one graphical object (See column 2, 55-67 and column 3, lines 1-35).
Belcsak teaches a process of performing an analysis on a graphical model. Belcsak teaches that the graphical representation includes at least one graphical object (See figure 14 and column 9, lines 40-50). A graphical box that is dragged by the user is a graphical object.
- Producing a report from the analysis or synthesis operation (column 3, lines 12-15 and column 7, lines 60-67 and column 16, lines 16-50). Belcsak teaches producing a report from the analysis of the model. Belcsak teaches generating formulas, objects, templates, timelines, calculations, constraints, or **any other** suitable information for modeling a scenario, which can be considered a report. Belcsak specifically teaches generating a report (See column 7, bottom).
- Generating associations associating elements of the graphical model representation with corresponding elements in the report (column 3, lines 30-35 and column 9, lines 35-67).
Receiving a selection of the graphical object in the graphical model representation (See column 9, lines 50-67 and column 3, lines 15-35, a user modifies scenario or double clicks in receiving a selection); displaying elements of the report corresponding to the selected graphical object in response to the selection. Belcsak teaches that each item on the diagram have associations within the model and correspond to elements of the report. Belcsak shows associations in a graphical form in figure 15, and Belcsak teaches the user can click on an item and the system shows the user more information about the object, which also includes a menu item that can link the user to the report item as shown in figure 12, where the diagram is on the left and the report is on the right. Belcsak specifically shows the GUI allows the user to create party graphics respectively representing financial parties in a scenario wherein each graphic **connects** two of the party graphics, which in the Examiners opinion is an association (See column 3, lines 45-55). The template is also generated that connects the object in the model to the information presented in the model (See column 3, lines 55-67), which as shown in the drawings (See Figures 6-8) the data is linked to a graphical object. Belcsak expressly

teaches the user can move arrows representing parties in a transaction which generate associations in the interface (See column 9, lines 40-67). Finally, Belcsak expressly teaches the **report can be bound** to the model allowing the report to be merged with the graphical model (See column 16, lines 40-45), which provides for a manipulatable interface by the user interacting with the data and the model and if the user can select and move associations and then view the updates on the model then they can see the item in the report corresponding to the selected graphical object.

In the alternative, if the limitation of “receiving a selection of the graphical object in the graphical model and displaying elements of the report corresponding to the selected graphical object”, can be interpreted as the user selecting an item within a document object model where the model is displayed within a graphical interface and in response to the selection displaying corresponding graphical objects in the report, then the teachings of Paterson can be applied because Paterson teaches a specific example of allowing the user to select a graphical object and the corresponding graphical object is shown in the interface (See column 4, lines 35-50 and column 6, lines 50-67 and column 7, lines 17-40 and column 9, lines 40-67 and column 10, lines 24-45). Paterson teaches that the user can select an object and see in the graphical interface the related elements in the interface. Paterson teaches Paterson and Belcsak both teach the process of entering equations into the interface and then modeling the relationship between the equations in the interface. They both teach creating a representation of the model on the screen.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Belcsak and Paterson in front of them to modify the system of Belcsak to include the selecting of a graphical object and specifically displaying the related items corresponding to the selected object. The motivation to combine Belcsak with Paterson comes from the suggestion that simulation modeling can be found in a wide variety of applications and allows complex systems to be visually modeled where objects in the model are represented by variables, equations or both in an object and the object can be represented as a selectable user interface element such as an icon (See column 1, lines 5-30) and the icons or

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other representations can be linked by relationships between the objects and the relationships can be visually represented as links on the interface.

With respect to **dependent claim 2**, Belcsak teaches the method in which the report is a document structured with portions corresponding to different elements of the graphical model representation (column 9, lines 15-30 and column 16, lines 16-50).

With respect to **dependent claim 3**, Belcsak teaches the method in which the document is a structural coverage report (Belcsak column 16, lines 15-50). Belcsak shows the report covers the foundation of the financial model and how it is calculated, which covers how the structure of a financial transaction is executed between two parties.

With respect to **dependent claim 4**, Belcsak teaches the method in which the document is a code generation report incorporating syntax highlighted code (column 13, lines 5-10). Belcsak teaches the code is generated in a report (See figure 21).

With respect to **dependent claim 5**, Belcsak teaches the method in which the document is a profiling report that documents relative execution times of each of the elements (Belcsak column 10, line 11-45). Belcsak teaches a process of entering the execution time of the financial model, which corresponds, to payments that flow from the parties. The longer the payment period will cause a longer execution time of the lease.

With respect to **dependent claim 7**, Belcsak teaches the method further comprising loading an element in the report in response to activating a graphical object on the graphical model representation and activating with a mouse (column 9, lines 30-67). Belcsak teaches the users can drag-n-drop new elements to be added to the model. The drag operation is performed using an input tool

With respect to **dependent claims 8-9, 18-19** as indicated in the above discussion Belcsak teaches every limitation of claim 1.

Belcsak teaches that the system is a web-based platform, which would provide the

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structure to have a web page and the elements of the graphical model rendered in a browser.

Belcsak also teaches that a report is generated for each of the sections of the model.

Belcsak does not provide a specific example where the individual associations within the reports are markup tags and that the tags are HTML tags. However, these limitations would have been obvious to one of ordinary skill in the art at the time of the invention, in view Paterson, because Paterson teaches the representations are generated and displayed in HTML or other windows or Apple applications (See Paterson column 4, 50-67), which would provide that the elements in the report of Paterson are using HTML tags. Neither Belcsak nor Paterson teach that the report. The motivation to combine Belcsak with Paterson comes from the suggestion that simulation modeling can be found in a wide variety of applications and allows complex systems to be visually modeled where objects in the model are represented by variables, equations or both in an object and the object can be represented as a selectable user interface element such as an icon (See column 1, lines 5-30) and the icons or other representations can be linked by relationships between the objects and the relationships can be visually represented as links on the interface and the objects are coded in HTML.

With respect to **dependent claim 10**; Belcsak teaches the method in which the report is a model coverage report (See figure 21 and column 16, lines 15-50). Belcsak teaches the entire model structure is covered in the reports generated by the system (See also column 7, lines 60-67).

In regard to **Claims 12-17, and 21**, claims 12, 14-17, and 21 reflect the system comprising computer readable instructions for performing the steps of method claims 1, 2-5, and 10 respectively, and in further view of the following, are rejected along the same rationale. Belcsak teaches that the elements of the graphical model can be loaded and changed by the user as selected within the interface (See example Figures 15-21). Belcsak also teaches the means within a system for displaying in an interface a graphical model that the user designs and from the model and analysis is run to determine the outcome of a financial transaction. Belcsak teaches that reports are generated that show the

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different sections of the transaction and the reports show the code in which the model was executed in the interface.

The examiner notes the support in the specification for the program product on page 6 of the specification.

In regard to **Independent claim 23**, Belcsak teaches the computer program product residing on a computer readable medium having instructions stored thereon which, when executed a processor, cause the processor to:

- Performing an analysis or synthesis operation on a graphical model representation that includes at least one graphical object (See column 2, 55-67 and column 3, lines 1-35).
Belcsak teaches a process of performing an analysis on a graphical model. Belcsak teaches that the graphical representation includes at least one graphical object (See figure 14 and column 9, lines 40-50). A graphical box that is dragged by the user is a graphical object.
- Producing a report from the analysis or synthesis operation (column 7, lines 60-67 and column 16, lines 16-50). Belcsak teaches producing a report from the analysis of the model.
- Generating associations associating elements of the graphical model representation with corresponding elements in the report (column 9, lines 35-67). Receiving a selection of the graphical object in the graphical model representation (See column 9, lines 50-67, a user double click is receiving a selection); displaying elements of the report corresponding to the selected graphical object in response to the selection Belcsak teaches that each item on the diagram have associations within the model and correspond to elements of the report.
Belcsak shows associations in a graphical form in figure 15, and Belcsak teaches the user can click on an item and the system shows the user more information about the object, which also includes a menu item that can link the user to the report item as shown in figure 12, where the diagram is on the left and the report is on the right. Belcsak specifically shows the GUI allows the user to create party graphics respectively representing financial parties in a scenario wherein each graphic **connects** two of the party graphics, which in the Examiners

opinion is an association (See column 3, lines 45-55). The template is also generated that connects the object in the model to the information presented in the model (See column 3, lines 55-67), which as shown in the drawings (See Figures 6-8) the data is linked to a graphical object. Belcsak expressly teaches the user can move arrows representing parties in a transaction which generate associations in the interface (See column 9, lines 40-67).

Finally, Belcsak expressly teaches the **report can be bound** to the model allowing the report to be merged with the graphical model (See column 16, lines 40-45), which provides for a manipulatable interface by the user interacting with the data and the model and if the user can select and move associations and then view the updates on the model then they can see the item in the report corresponding to the selected graphical object.

In the alternative, if the limitation of “receiving a selection of the graphical object in the graphical model and displaying elements of the report corresponding to the selected graphical object,” can be interpreted as the user selecting an item within a document object model where the model is displayed within a graphical interface and in response to the selection displaying corresponding graphical objects in the report, then the teachings of Paterson can be applied because Paterson teaches a specific example of allowing the user to select a graphical object and the corresponding graphical object is shown in the interface (See column 4, lines 35-50 and column 6, lines 50-67 and column 7, lines 17-40 and column 9, lines 40-67 and column 10, lines 24-45). Paterson teaches that the user can select an object and see in the graphical interface the related elements in the interface. Paterson teaches Paterson and Belcsak both teach the process of entering equations into the interface and then modeling the relationship between the equations in the interface. They both teach creating a representation of the model on the screen.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Belcsak and Paterson in front of them to modify the system of Belcsak to include the selecting of a graphical object and specifically displaying the related items corresponding to the selected object. The motivation to combine Belcsak with Paterson comes from the suggestion that simulation modeling can be found in a wide variety of

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applications and allows complex systems to be visually modeled where objects in the model are represented by variables, equations or both in an object and the object can be represented as a selectable user interface element such as an icon (See column 1, lines 5-30) and the icons or other representations can be linked by relationships between the objects and the relationships can be visually represented as links on the interface.

Claim Rejections - 35 USC § 103

6. **The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 11, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belcsak, or, in the alternative, (Belcsak in view of Paterson et al) as applied to claims 1-7, 10, 12-17, 21, 23 above, in view of Critz et al. (hereinafter Critz) U.S. Patent No. 7139686 issued Nov. 21, 2006 and filed Mar. 3, 2000.**

With respect to **dependent claims 11, 20, and 22** as indicated in the above discussion Belcsak teaches every limitation of claim 1.

Belcsak teaches that the system is a web-based platform, which would provide the structure to have a web page and the elements of the graphical model rendered in a browser. Belcsak also teaches that a report is generated for each of the sections of the model.

Belcsak does not provide a specific example where markup language tags are portable document format (PDF) embedded links and that the report that is generated is a generated code report. Paterson teaches the representations are generated and displayed in HTML or other windows or Apple applications (See Paterson column 4, 50-67), which would provide that the elements in the report of Paterson are using HTML tags. Neither Belcsak nor Paterson teaches that the report is generated in PDF links or that the report is a code generated report. However, in the same problem area of automatically generating reports from graphical models, Critz teaches a system that a designer can create and assemble reporting elements in a modeling environment and the model elements can be represented in the report with PDF links and the report is a code generated report (See column 4, lines 25-55 and column 5, lines 25-35). Critz, Paterson and Belcsak all teach generating a model and allowing the user to interact with the model. They teach associating graphical elements and when the user selects an element the system shows the associations.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the teachings of Belcsak, Paterson and Critz in front of them, to modify the system of Belcsak and Paterson to include the associations as PDF tags and to produce a code report showing the underlying structure of the HTML report document. The motivation to combine Belcsak, Paterson and Critz comes from the suggestion in Critz that model elements in the report can change over time and that the report can be generated in a format that can be easily shared by others and can be run multiple times (See column 1, lines 60-65 and column 4, lines 40-42) and is user selectable.

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It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

Response to Arguments

Applicant's arguments with respect to claims 1-5, 7-23 have been considered but are moot in view of the new ground(s) of rejection as applicant's arguments revolve around the new amended limitations and the Examiner has provided a new reference in the alternative and a rationale for Belcsak.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6160549 to Touma, which discloses a process of generating a report from a declarative model of graphical objects and running simulation on the configured model.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven B. Theriault whose telephone number is (571) 272-5867. The examiner can normally be reached on M, W, F 10:00AM - 8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven B Theriault/
Patent Examiner
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